

AMENDMENTS OF THE CLAIMS

Claims 1-8 (cancelled)

5 9. (New) A method for transmitting frames in a mobile communication system which transmits frames for several services, the method comprising the steps of:
 creating a multiplex frame of a given length including at least one RLP frame determined according to a service priority; and
 assembling a plurality of the consecutive multiplex frames into an information frame of a
10 predetermined length and transmitting the information frame.

 10. (New) A data transmission device in a mobile communication system comprising:
 a plurality of RLP processors each for processing unique service data and generating an
15 RLP frame of a predetermined length;
 a multiplexing controller for determining a length of the RLP frame generated from the RLP processors, and assembling a multiplex frame; and
 a physical layer processor for assembling a plurality of consecutive multiplex frames into an information frame of a second length and transmitting the information frame.

20 11. (New) A method for receiving frames in a mobile communication system which receives an information frame comprised of a plurality of consecutive multiplex frames, each multiplex frame including at least one RLP frame having a header attached at the head thereof, the method comprising the steps of:
25 demultiplexing each multiplex frame included in the received information frame; and
 separating at least one RLP frame included in the demultiplexed multiplex frame according to an RLP service using a length indicator of the header, and outputting the separated RLP frame to the corresponding RLP service for processing.

30 12. (New) A device for receiving frames in a mobile communication system

which receives an information frame comprised of a plurality of consecutive multiplex frames, each multiplex frame including at least one RLP frame, at the head of which a header is attached, the device comprising:

5 a demultiplexing controller for separating at least one RLP frame included in each multiplex frame in the received information frame according to an RLP service using a length indicator of the header; and

a plurality of RLP processors for performing a corresponding service on the separated RLP frame.